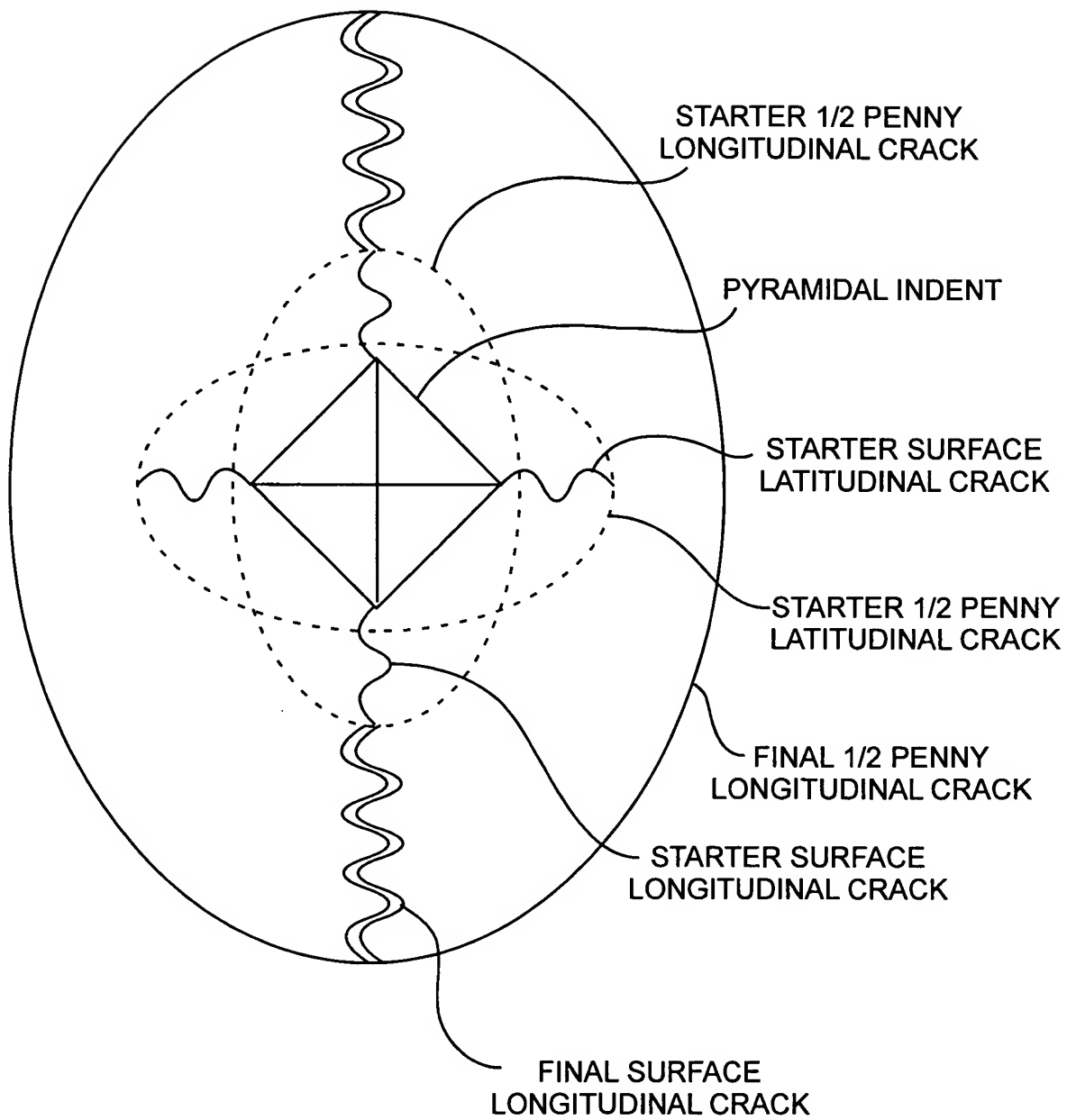


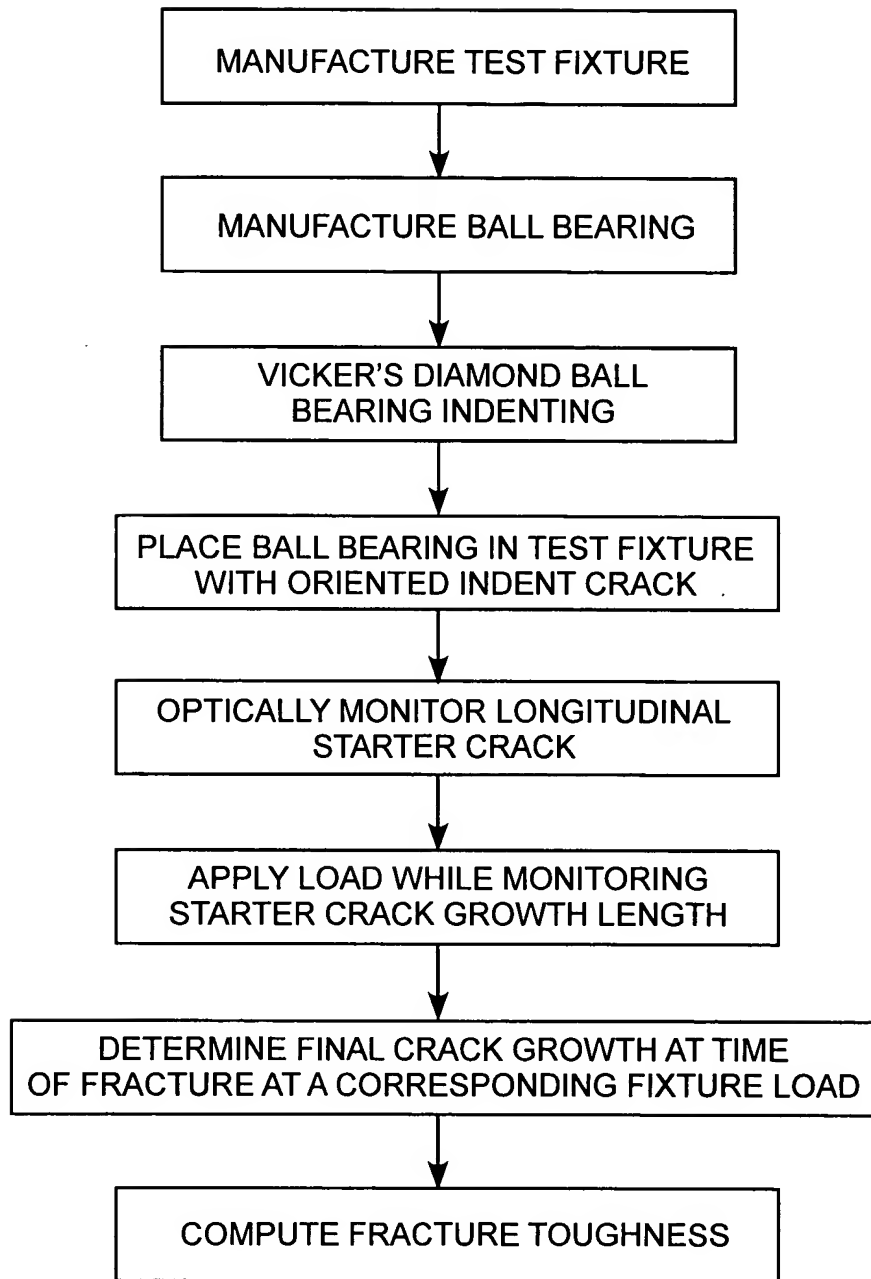
FRACTURE TOUGHNESS TEST FIXTURE

FIG. 1



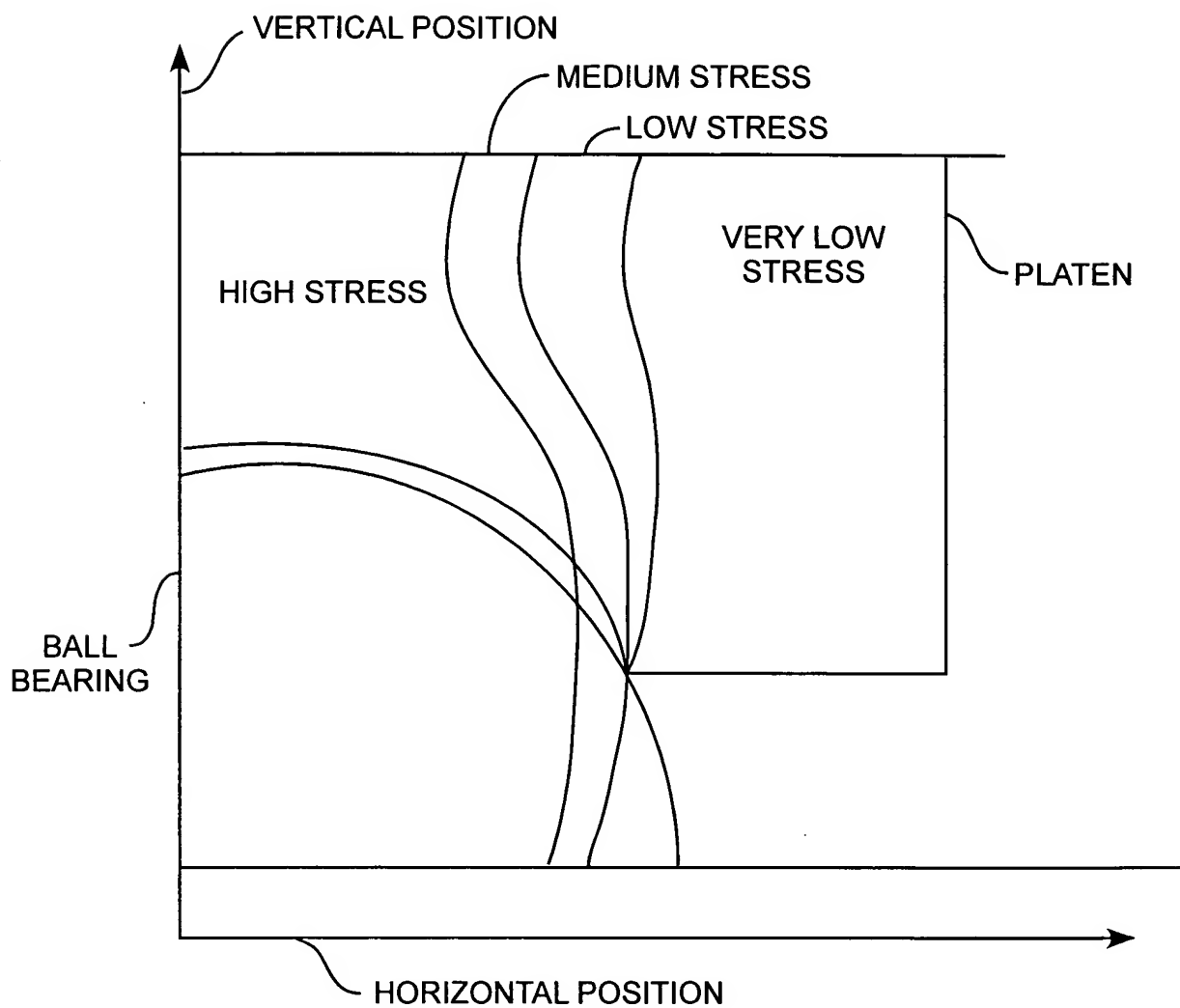
INDENTATION CRACK

FIG. 2



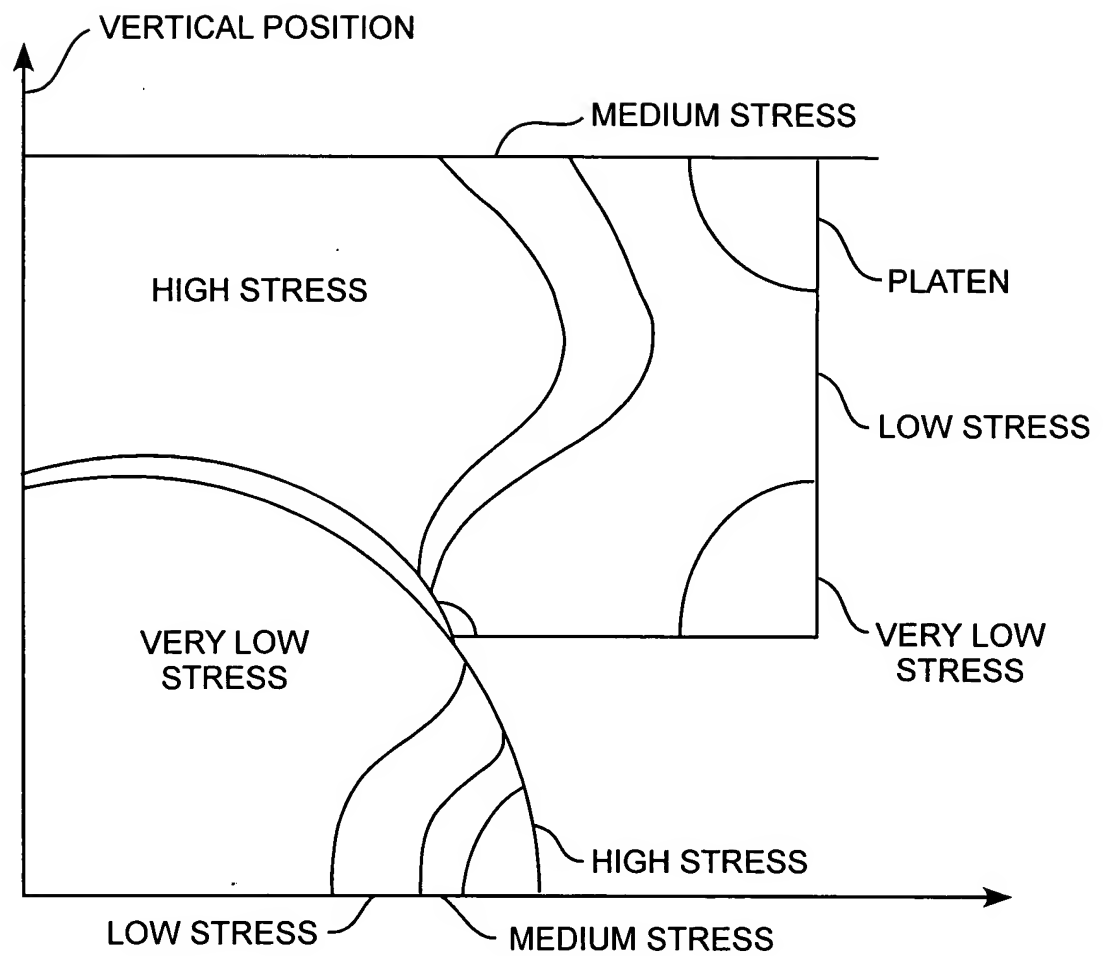
FRACTURE TOUGHNESS MEASUREMENT PROCESS

FIG. 3



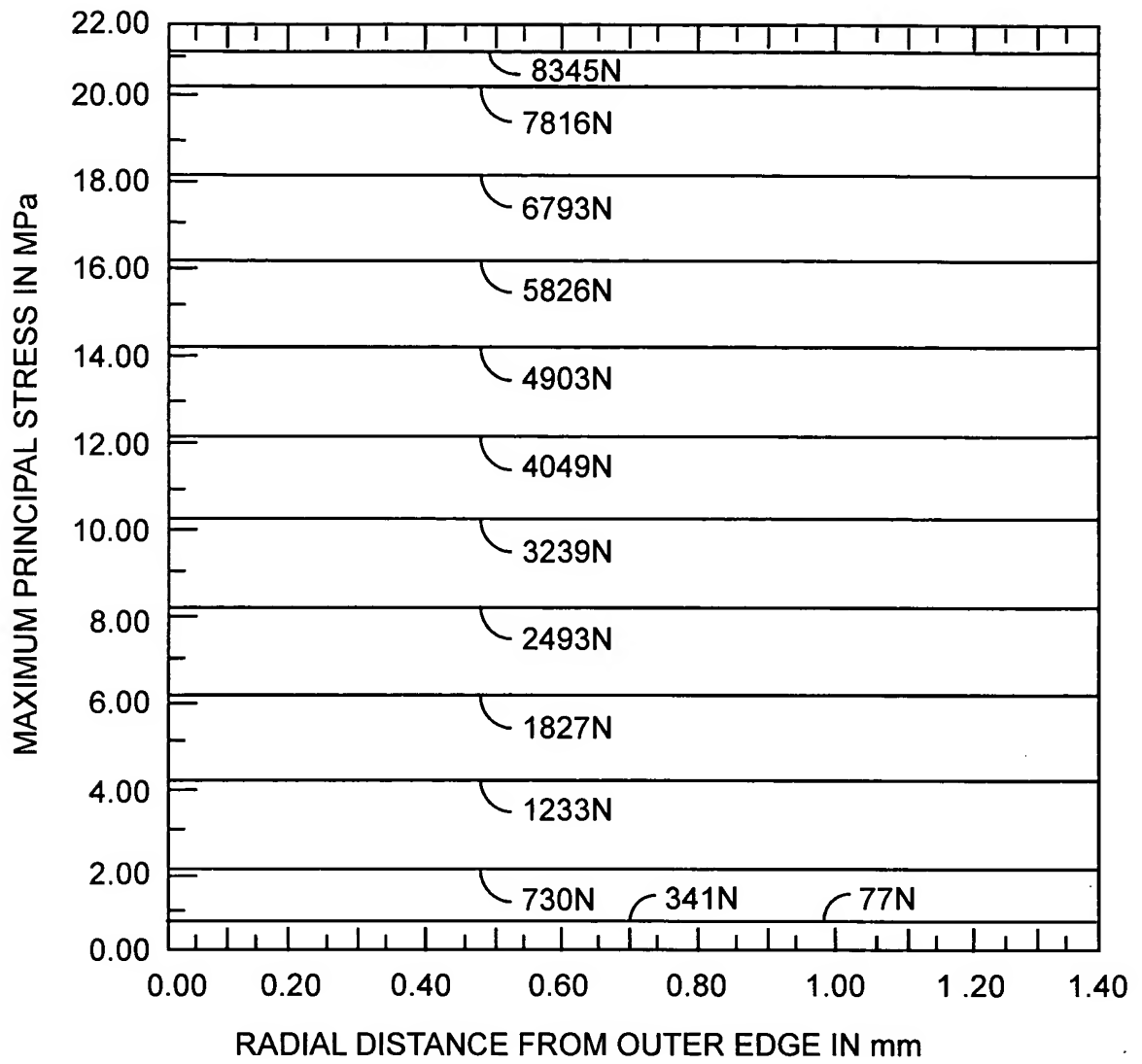
COMPRESSIVE STRESS CONTOUR PLOT

FIG. 4A



TENSILE STRESS CONTOUR PLOT

FIG. 4B



CRACK LENGTH TO TENSILE STRESS GRAPH

FIG. 5